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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,641	11/08/2001	Friedrich Boecking	1874	1862

7590 10/03/2003

STRIKER, STRIKER & STENBY
103 East Neck Road
Huntington, NY 11743

EXAMINER

GANEY, STEVEN J

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 10/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,641

Applicant(s)

BOECKING, FRIEDRICH

Examiner

Steven J. Ganey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 3 and 6 are objected to because of the following informalities: In claim 3, line 1, the claim is shown to depend from claim 1, however, it should depend from claim 2 in order to provide proper antecedent basis for "said connection". In claim 6, line 1, the claim is shown to depend from claim 1, however, it should depend from claim 5 in order to provide proper antecedent basis for "said hydraulic spring chamber". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, line 8, the "nozzle needle being provided with pressure stages" is recited, however, it is not clearly disclosed in the specification what elements comprise the pressure stages and is not clearly defined. In the specification only a pressure stage 40 is recited, however, in several areas the ring shaped cross-sectional transverse surface 31, is recited as

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being an upper pressure stage or first pressure stage. Is the ring-shaped surface 35 also a pressure stage?

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, line 2, "a hydraulic spring chamber" raises double inclusion issues since this is part of the "hydraulic spring" positively recited in claim 1.

In claim 5, line 2, "a transverse surface" raises double inclusion issues since "pressure stages" are recited in claim 1 and according to the specification the "transverse surface" appears to be either "a first pressure stage" or "upper pressure stage".

In claim 6, line 2, "said hydraulic spring chamber" raises double inclusion issues and lacks antecedent basis since this is part of the "hydraulic spring" positively recited in claim 1.

In claim 7, line 3, "said hydraulic piston" lacks antecedent basis. It appears this should be --said control piston--.

In claim 7, line 4, "a hydraulic spring chamber" raises double inclusion issues since this is part of the "hydraulic spring" positively recited in claim 1.

In claim 8, line 2, a "valve body" raises double inclusion issues since this limitation has already been positively recited in claim 1, line 4.

In claim 9, line 2, "means forming restoring forces" raises double inclusion issues since the "hydraulic spring" is part of this "means forming restoring forces".

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In claim 9, line 3, "said pressure stage" is indefinite since it is referred to in a singular terms, whereas in claim 1, plural "pressure stages" are recited. Is there only one pressure stage or are there plural pressure stages?

In claim 9, lines 4 and 5, "a cross-sectional surface" raises double inclusion issues since "pressure stages" are recited in claim 1 and according to the specification the "cross-sectional surface" appears to be either "a first pressure stage" or "upper pressure stage".

In claim 9, line 5, "a hydraulic spring chamber" raises double inclusion issues since this is part of the "hydraulic spring" positively recited in claim 1.

In claim 10, line 2, "a hydraulic spring chamber" raises double inclusion issues since this is part of the "hydraulic spring" positively recited in claim 1.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Heinz et al '017.

Heinz '017 discloses an injector comprising all the featured elements of the instant invention, note specifically an inlet 12; a valve body 33; a nozzle chamber 9; nozzle needle 5 with pressure stages 16 and 24; sealing spring 21; and hydraulic spring 25.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Straubel et al, Yudanov et al, Heinz et al '709, Shinogle et al and Heinz et al '164 show fuel injectors with hydraulic spring chambers.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven J. Ganey whose telephone number is (703) 308-2585. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar, can be reached on (703) 308-2087. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.


STEVEN J. GANEY
PRIMARY EXAMINER
9/28/03

sjg

9/28/03